

ELV

Notice of Allowability	Application No.	Applicant(s)	
	09/689,599	PARK ET AL.	
	Examiner	Art Unit	
	(Nancy) Thanh-Nhan P. Nguyen	2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 5/16/2005.
2. ☒ The allowed claim(s) is/are 1-13, 15-23, 27 and 32-60.
3. ☒ The drawings filed on 13 October 2000 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date <u>6/6/03; 12/13/04</u> | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

DETAILED ACTION

1. This communication is responsive to Request for Continued Examination (RCE) dated 5/16/2005.
2. Claims 1-13, 15-23, 27, and 32-60 are pending for the examination;
Claims 14, 24-26, and 28-31 are cancelled.
3. Claims 1-13, 15-23, 27, and 32-60 are allowed.
4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
 - a. Gu et al U.S. Patent No. 6,359,672 discloses the parasitic capacitance is created at overlapped areas between the pixel electrodes and the signal lines, and between the pixel electrodes and the gate lines. Gu et al also discloses the relationship between the parasitic capacitance and the overlapped area, the dielectric constant, and the thickness of the insulating layer.
 - b. Shimada et al U.S. Patent No. 6,147,722 discloses the different overlapped widths of the pixel electrodes with the gate lines and the data lines.
 - c. Fujikawa et al U.S. Patent No. 5,995,178 discloses the portions of the interlayer insulating film where the pixel electrodes overlap the signal lines are made thinner than the other portions of the interlayer insulating film, and the thickness of the thinned portions is about 0.5 μm .
 - d. Shimada et al U.S. Patent Application Publication No. 2001/0002857 discloses the overlapped widths of the pixel electrodes with the gate lines and

the data lines is greater than 1 μm , and the thickness of the insulating film is greater than 2 μm .

5. The following is an examiner's statement of reasons for allowance:

Applicant's claimed invention distinguishes over the prior art for the following reasons. The claims are allowable over the prior art of record because none of the references, either alone or in combination, discloses or renders obvious a liquid crystal display device comprising:

- a pixel electrode formed on the organic insulating film and connected to a source electrode of the thin film transistor, said pixel electrode overlapping the gate line and the data line, wherein a thickness of the organic insulating film in an overlapping area between the pixel electrode and the data line is different from a thickness of the organic insulating film in an overlapping area between the pixel electrode and the gate line.

and/or

- the thickness and the dielectric constant of the organic insulating film are selected such that a liquid crystal pixel cell driven with the pixel electrode charges to a voltage which is more than 95% of a video data voltage within $\frac{1}{2}$ of an enabling interval of a control signal that is applied to a gate electrode for defining a channel of the thin film transistor.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to (Nancy) Thanh-Nhan P. Nguyen whose telephone number is 571-272-1673. The examiner can normally be reached on M-F/9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on 571-272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

June 9, 2005

TN


ROBERT H. KIM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800